

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ BLACK BORDERS
- ☐ IMAGE CUT OFF AT TOP, BOTTOM OR SIDES
- ☐ FADED TEXT OR DRAWING
- ☐ BLURRED OR ILLEGIBLE TEXT OR DRAWING
- ☐ SKEWED/SLANTED IMAGES
- ☐ COLOR OR BLACK AND WHITE PHOTOGRAPHS
- ☐ GRAY SCALE DOCUMENTS
- ☐ LINES OR MARKS ON ORIGINAL DOCUMENT
- ☐ REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY
- ☐ OTHER: _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/990,133

11/21/2001

Petri Boman

915-400

2111

4955

7590

09/29/2004

WARE FRESSOLA VAN DER SLUYS &
ADOLPHSON, LLP
BRADFORD GREEN BUILDING 5
755 MAIN STREET, P O BOX 224
MONROE, CT 06468

EXAMINER

PHAM, TUAN

ART UNIT

PAPER NUMBER

2643

DATE MAILED: 09/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/990,133

Applicant(s)

BOMAN ET AL.

Examiner

TUAN A PHAM

Art Unit

2643

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>07/23/02,01/17/03</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-5, 17-18, and 22-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Leon et al. (U.S. Patent No.: 5,896,277, hereinafter, "Leon").

Regarding claim 1, Leon teaches a housing for an electronic device (see figure 1) comprising a unitary tubular body having an open end for insertion of electronic components therein (see figure 1, radio housing 20, col.2, ln.5-45).

Regarding claim 2, Leon further teaches a housing including a member for closing the open end of the tubular body (see figure 1, col.2, ln.5-45).

Regarding claim 3, Leon further teaches a housing wherein the member is configured to support electronic components thereon (see figure 2, col.2, ln.46-63).

Regarding claim 4, Leon further teaches a housing wherein the member includes a support for locating and retaining a printed circuit board thereon. Leon fails to explicitly teach the member includes a support for locating and retaining a printed circuit board thereon. However, Leon teaches a housing of a radio telephone for holding a battery. Therefore, the member includes a support for locating and retaining a printed circuit board is inherently (see figure 1).

Regarding claim 5, Leon further teaches a housing wherein the support includes an integrally moulded clip to receive the edge of a printed circuit board and a location spigot (i.e., receive mean) to support the underside thereof (see explain at claim 4, receive mean 25, col.2, ln.5-20).

Regarding claims 17 and 18, Leon further teaches an electronic device incorporating the housing and mobile telecommunication device (see figure 1, mobile phone).

Regarding claims 22 and 25, Leon teaches a method of forming a housing (see figure 2) comprising a unitary tubular body having an open end for insertion of electronic components therein (see figure 2, battery 28, col.2, ln.46-64), the method including the step of permanently attaching at least two housing portions together to form the unitary body (see figure 2, upper portion 22, lower portion 24, col.2, ln.5-62).

Regarding claim 23, Leon further teaches a method wherein the portions are attached by welding. Leon fails to explicitly teach the portion of housing is attached by welding. However, Leon teaches a housing of radio telephone with the upper portion and lower portion together to form the body. Therefore, it is inherently the portion of housing is attached by welding (see figure 1, upper portion 22, lower portion 24).

Regarding claim 24, Leon further teaches a method wherein the portions are attached by adhesive bonding. Leon fails to explicitly teach the portion of housing is attached by adhesive bonding. However, Leon teaches a housing of radio telephone with the upper portion and lower portion together to form the body. Therefore, it is

Art Unit: 2643

inherently the portion of housing is attached by adhesive bonding (see figure 1, upper portion 22, lower portion 24).

Regarding claim 26, Leon further teaches a method wherein the housing is extruded (see col.2, ln.5-44).

Regarding claim 27, Leon further teaches a method wherein the housing is formed from sheet metal. Leon fails to explicitly teach the portion of housing is formed from sheet metal. However, Leon teaches a housing of radio telephone with the upper portion and lower portion together to form the body. Therefore, it is inherently the portion of housing is formed from sheet metal (see figure 1, upper portion 22, lower portion 24).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

Art Unit: 2643

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leon et al. (U.S. Patent No.: 5,896,277, hereinafter, "Leon") in view of Norman et al. (U.S. Patent No.: 6,073,027, hereinafter, "Norman").

Regarding claim 6, Leon teaches a housing for an electronic device (see figure 1) comprising a unitary tubular body having an open end for insertion of electronic components therein (see figure 1, radio housing 20, col.2, ln.5-45).

It should be noticed that Leon fails to clearly teach a housing wherein a portion of the inner peripheral wall of the member includes a recess to receive a transducer module. However, Norman teaches such features (see col.3, ln.27-46) for a purpose of containing the electronic element.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the use of a housing wherein a portion of the inner peripheral wall of the member includes a recess to receive a transducer module, as taught by Norman, into view of Leon in order to save the space of the mobile phone.

Regarding claim 7, Norman further teaches a housing including a guide on the body to receive and support electronic components mounted on the member (see figure 4, guide 38, col.3, ln.56-64).

Regarding claim 8, Norman further teaches a housing wherein the guide is a rail (i.e., guide)(see figure 4, guide 38, col.3, ln.56-64).

Art Unit: 2643

5. Claims 9-16, and 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leon et al. (U.S. Patent No.: 5,896,277, hereinafter, "Leon") in view of Kubo (U.S. Patent No.: 6,580,923).

Regarding claim 9, Leon teaches a housing for an electronic device (see figure 1) comprising a unitary tubular body having an open end for insertion of electronic components therein (see figure 1, radio housing 20, col.2, ln.5-45).

It should be noticed that Leon fails to clearly teach the body includes a plurality of apertures in one face to receive the keys of a keymat mounted on an inner wall of the body, and an opening in the other face opposite the apertures to receive a battery pack. However, Kubo teaches such features (see figure 3, front case 32, back case 34, col.4, ln.45-58, col.5, ln.1-25) in order to holding electronic component within the housing.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the use of a plurality of apertures in one face to receive the keys of a keymat mounted on an inner wall of the body, and an opening in the other face opposite the apertures to receive a battery pack, as taught by Kubo, into view of Leon in order to save the space of the mobile phone.

Regarding claim 10, Kubo further teaches a housing wherein the body includes means to releasably secure a keymat retaining plate over the keymat (see figure 3, key group sheet 31, col.4, ln.46-55).

Regarding claim 11, Kubo further teaches a housing wherein the means comprises an integrally formed tab on the body for location of the retaining plate thereunder (see figure 3, key group sheet 31, col.4, ln.46-55).

Regarding claim 12, Kubo further teaches a housing wherein the retaining plate (i.e., flexible printed circuit board) is formed from a resilient flexible material and is a snap fit beneath the integrally formed tab on the body (see figure 3, col.7, ln.62-67).

Regarding claim 13, Kubo further teaches a housing wherein a portion of the body overlaps the member, the body and member including co-operating parts (i.e., handle) to mount the member on the body (see figure 4, handle 52c-3, col.6, ln.30-52).

Regarding claim 14, Kubo further teaches a housing wherein the co-operating parts includes a flange on the member that forms an interference fit with the body (see figure 6, 52b-2, col.6, ln.19-27).

Regarding claim 15, Leon further teaches a housing a lock for releasably securing the member mounted to the body (see figure 1, locking 16, col.2, ln.5-15).

Regarding claim 16, Leon further teaches a housing wherein said lock includes an aperture in the member and a boss in the body, fastening means being insertable through the aperture for location in the boss (see figure 1, receive mean 25, col.2, ln.5-15).

Regarding claim 19, Kubo further teaches a housing including a keymat, a keymat retaining plate and a battery pack, the retaining plate being configured such that the keymat is biased against the housing by the retaining plate when the battery pack is mounted in the housing (see figure 3, col.4, ln.46-67).

Regarding claim 20, Kubo further teaches a housing wherein the retaining plate includes resiliently deformable regions raised out of the plane of the plate, said regions

Art Unit: 2643

being deflected back towards the plane of the plate by the battery pack mounted in the housing, thereby biasing the keymat against the housing (see figure 6, col.6, ln.1-26).

Regarding claim 21, Kubo further teaches a housing wherein the resiliently deformable regions are a plurality of spaced parallel ribs (see figure 3, col.6, ln.1-27).

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. In order to expedite the prosecution of this application, the applicants are also requested to consider the following references. Although Ohira et al. (U.S. Patent No. 6,718,188), Dzung et al. (U.S. Patent No. 5,752,205), Goyal et al. (U.S. Patent No. 6,751,473), and Murray et al. (U.S. Patent No. 6,011,699) are not applied into this Office Action; they are also called to Applicants attention. They may be used in future Office Action(s). These references are also concerned for supporting the system and method for housing of mobile wireless.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Tuan A. Pham** whose telephone number is (703) 305-4987. The examiner can normally be reached on Monday through Friday, 8:00 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Curtis Kuntz can be reached on (703) 305-4708 and

IF PAPER HAS BEEN MISSED FROM THIS OFFICIAL ACTION PACKAGE, PLEASE CALL Customer Service at (703) 306-0377 FOR THE SUBSTITUTIONS OR COPIES.

Art Unit: 2643

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Or faxed to: (703) 872-9306

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington VA, Sixth Floor (Receptionist, tel. No. 703-305-4700).

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have question on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Art Unit 2643
September 14, 2004
Examiner

Tuan Pham


CURTIS KUNTZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600